



February 9, 2009

VIA E-MAIL

Courtney Feeley Karp  
Department of Energy Resources  
Commonwealth of Massachusetts  
100 Cambridge Street, Suite 1020  
Boston, MA 02114

Re: Proposed Final Regulations –  
225 CMR 15.0 Renewable Portfolio Standard – Class II RPS

Dear Ms. Karp:

GDF Suez Energy North America, Inc. (“GDF SUEZ”) submits the following comments in response to the Department of Energy Resources’ (“DOER”) public notice regarding the promulgation of proposed final regulations pertaining to the new Class II program under the renewable portfolio standard (“RPS”). The proposed final regulations for the Class II RPS are presently codified as emergency regulations at 225 CMR 15.0 and are referred to herein as the “Proposed Rule.” GDF SUEZ appreciates that the Proposed Rule resulted from a DOER stakeholder process involving public comment and public meetings. The Proposed Rule represents a significant undertaking by DOER in the implementation of the RPS amendments enacted by the Green Communities Act (“GCA”) and serve to further the role of Massachusetts as a leader in promoting the generation of electricity from renewable energy technologies.

Our comments build on certain points made in the October 15, 2008 comments filed by our affiliate, Pinetree Power Fitchburg, Inc., in the above-noted GCA stakeholder implementation process (the “Pinetree Comments”), and focus on the most significant aspect of the RPS program: the alternative compliance payment (“ACP”) and the issue of its adequacy to promote the goals of the Class II RPS program. If the ACP is set too low, then it will not produce renewable energy certificate (“REC”) pricing and revenues sufficient to induce the capital investment expected to be required for wood-fired generator eligibility in the Class II RPS. The resulting REC revenue also will be too low to assist in mitigating a wood-fired generator’s operational risks arising from wood fuel price volatility and energy revenue volatility. GDF SUEZ maintains that the Proposed Rule’s \$25 ACP for the Class II RPS will not provide REC revenue sufficient to allow the Pinetree Power Fitchburg, Inc. wood-fired generator located in Westminster to make the investment required for participation in the Class II RPS.

1. In enacting its Class II RPS final regulations, DOER should evaluate whether the ACP set forth in the Proposed Rule will advance the Class II RPS goal.

In enacting the GCA provisions amending the existing RPS, the legislature sought to further promote renewable energy as part of the power supply mix in Massachusetts. The Class II RPS, newly created by the GCA, specifically sought to provide incentives to support the continued operation of existing renewable energy sources that meet Class II RPS eligibility, technology, and environmental requirements. In particular, the legislature sought to achieve lower air emissions from pre-1997 operational wood-fired renewable generators seeking to obtain the benefit of the Class II RPS program.

The Proposed Rule seeks to implement these legislative goals by establishing an annual generation minimum standard, which, in effect, sets the demand for Class II RPS renewable energy certificates (“RECs”), and the ACP, which sets the price ceiling for the purchase of such RECs. For non-waste-to-energy Class II RPS generators, the Proposed Rule sets the initial ACP at \$25 and the annual generation minimum standard at 3.6 percent of the total annual retail sales in Massachusetts.<sup>1</sup> See Proposed Rule at 225 CMR Section 15.07(1) and Section 15.08(3)(a)(2). DOER should evaluate whether this proposed ACP and annual generation minimum standard will produce a viable Class II RPS, particularly as it applies to existing wood-fired renewable energy generators such as the Pinetree Power Fitchburg facility located in Westminster. We maintain that the Proposed Rule ACP is too low to support a market price for Class II RPS RECs adequate to promote the continued operation of existing wood-fired renewable energy generators, especially if a capital investment in additional air emissions control equipment is needed to meet the low-air emissions standards to be set by the DOER.<sup>2</sup>

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<sup>1</sup> The DOER’s 2007 Annual RPS Compliance Report projects retail sales at 51,370,602 MWh for 2009 and assumes zero load growth through 2015. This sales figure and the zero load growth projection equate to a Class II RPS demand in each of those years for about 1,850,000 RECs. The February 5, 2009 DOER “Determination of the Minimum Standards for Massachusetts RPS Class II and APS” (“Standards Determination”) provides a different estimate of REC demand, based on historic, not projected, retail sales. The 2007 Compliance Report retail sales projection and the Standards Determination retail sales projection do not account for any retail sales reduction arising from the issue of how to construe the January 1, 2009 contract date stated in Section 32(d) of the Green Communities Act. The resolution of that issue will affect the demand for RECs and place downward pressure on the price of RECs. See footnote 6.

<sup>2</sup> The Proposed Rule at 225 CMR 14.05(1)(a)(8)(a) states that the DOER will set low-emissions eligibility criteria by guideline. At present no such criteria have been specified for Class II RPS eligibility. Hence, the costs associated with an existing wood-fired generator becoming Class II RPS-eligible are uncertain. As noted in the Pinetree Comments at 2-3, the ACP/REC revenue determination, annual generation minimum standard, and capital investment required for Class II RPS eligibility are interrelated. At present, if one assumes for the sake of illustration that existing facilities can qualify for



An order of magnitude estimate of the REC market price needed by such facilities is apparent from an examination of wood fuel expenses and energy and capacity revenues in the wholesale power markets administered by ISO New England ("ISO-NE"). A typical 15 MW wood-fired renewable energy generator will require about 220,000 tons of wood fuel annually. Wood fuel costs range around \$34/ton.<sup>3</sup> This means that the total wood fuel expense to such a generator ranges around \$7.5 million per year.

With respect to wood-fired generator revenues, we note that ISO-NE energy and capacity market prices have continued the downward trends that began in the Fall of 2008. Today, the average ISO-NE energy price is around \$60/MWh for the New England "Hub." ISO-NE capacity prices have also trended downward, and that trend is expected to continue, given the surplus of resources eligible to participate in ISO-NE's forward capacity market ("FCM").<sup>4</sup> For example, starting with the second FCM capability period, the capacity revenue equivalent for a typical 15 MW wood-fired generator will only be about \$4.60/MWh. As a result of these

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Class II based on the existing air emissions of the unit, then one can expect that the Class II RPS program will be oversubscribed and the resulting REC value will be *de minimis*. If, however, robust air emissions standards require capital investment in additional air emissions control technology, then the \$25 ACP can be expected to produce REC revenues inadequate to induce the investment and the program will be undersubscribed and not achieve the legislative goal of continued facility operation. See footnote 6.

<sup>3</sup> Facilities can and do have significantly greater wood fuel costs. See *Timbercrier*, Winter 2009 published by the New Hampshire Timberland Owners Association. The *Timbercrier* survey of fuel-grade wood chip delivered prices reports average prices per ton of \$37, \$39, and \$38 in the North, Central and South regions, respectively. The price per ton for wood fuel is very volatile. A few years ago, wood fuel prices ranged around \$18-\$19 a ton. The \$34/ton cost is a reasonable, conservative number to use at present, considering that the Class II RPS applies to wood-fired generators having a range of fuel costs. Generally, wood fuel procurement is not accomplished pursuant to long-term contracts and fixed prices and therefore, prices can be expected to remain volatile over the operating life of a wood-fired generator. Note that the wood fuel market price used herein reflects a decrease in wood costs from the Fall of 2008 range used in the Pinetree Comments. This short-term decrease in wood fuel expense, however, is offset by the decreases in ISO-NE energy and capacity market revenues described below. The overall trend in wood fuel market prices is upward.

<sup>4</sup> The first FCM auction cleared at \$4.50/kW-month and the second auction cleared at \$3.60/kW-month. The third auction is expected to result in a clearing price of \$2.95/kW-month. After the third auction, there will be no floor price in subsequent FCM auctions and the clearing price may be even lower. In each case, the actual price paid to capacity suppliers will be less than the auction clearing price, as a result of proration based on surplus capacity resource participation in the auctions. For example, the second FCM auction was over-subscribed by more than 4,700 MWs.

downward trends, the total energy and capacity market revenues of about \$64/MWh will essentially cover only the wood fuel expenses of the generator.<sup>5</sup>

The majority of all the other fixed and variable costs of the typical wood-fired generator, including any air emissions control technology capital expenditures required to meet Class II RPS eligibility guidelines, operation and maintenance costs, labor, taxes (at a combined federal and state tax rate of about 40%), and any future increases in the cost of wood fuel, must be paid for from REC revenues. A \$25 ACP is unlikely to result in REC market revenues adequate to cover these costs.<sup>6</sup> Even assuming that the Proposed Rule's 3.6 percent annual generation minimum standard, which creates the regulatory demand for RECs, does not result in an oversupply of RECs, with the resulting downward pressure on the market price of such RECs. Current wood fuel price volatility, energy revenue expectations, and REC revenue expectations resulting from a \$25 ACP will not induce the capital investment in additional air emissions equipment needed to qualify the Pinetree Power Fitchburg, Inc. wood-fired generator for the Class II RPS.

Given the operating costs noted above and the potential Class II RPS program eligibility capital expenditure requirements, GDF SUEZ respectfully urges the DOER to reconsider the Proposed Rule ACP and to adopt final regulations setting an ACP for the Class II RPS program designed to result in a market price for Class II RECs in a range around \$35.

2. A more robust ACP will support the continued operation of existing wood-fired renewable energy generators and the continued provision of the other economic benefits provided by such generators.

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<sup>5</sup> The effect of wood fuel price volatility on the typical 15 MW generator is apparent when one considers that ISO-NE energy and capacity revenues of \$64 per MWh will cover the generator's wood fuel expenses if wood fuel is \$34 per ton, but will not cover the cost of wood fuel needed to keep the facility in operation if wood fuel is \$35.50 per ton.

<sup>6</sup> In assessing the adequacy of the \$25 ACP GDF Suez notes its market observation is that REC pricing will be volatile and RECs will trade in a range of 30% to 90% of the ACP based on the supply and demand of RECs. This equates to a range of \$7.50 to \$22.50 for a \$25 ACP. Also note that the resulting REC price will be a function of supply and demand. Given the number of existing biomass, hydro, and landfill methane generation units potentially eligible for the Class II RPS, the potential supply of RECs from Class II generators appears likely to exceed the 3.6% annual generation demand for RECs proposed in the rulemaking. This oversupply can be expected to cause the REC price to be at the lower end of the range noted. If the ACP, which functions as a ceiling for the REC range, is increased there will still be REC volatility, but the range in which it occurs will be such that it will more likely support the air emission control equipment investment decision required for wood-fired generators to be eligible for the Class II RPS.



As noted above, and in DOER's February 5, 2009 Standards Determination, "the RPS Class II [was] established to promote the continued operation of those existing renewable energy technologies that qualify for the RPS Class II program." Standards Determination at 1. The Class II RPS promotes continued unit operation by providing incentives, in the form of the minimum purchase requirements, the ACP, the resulting REC revenues, and related RPS policies. Continued operation of these generators, particularly the wood-fired generators, is important because they provide a number of significant public and economic benefits that can be assumed to continue if the ACP is set at a level high enough to produce adequate revenues from REC market sales.

The benefits obtained from wood-fired renewable energy generation are typified by those produced by the GDF SUEZ wood-fired generator operated by Pinetree Power Fitchburg, Inc. ("Pinetree") in Westminster, and include the following:

(a) Wood Fuel Purchases: Unlike other renewable generators (e.g., hydro, landfill gas, and wind) Pinetree must purchase fuel. The vast majority of its wood fuel is obtained locally, which means, unlike purchasers of fossil fuels, its fuel acquisition dollars are spent in the local economy.

(b) Jobs: Pinetree's operations support a number of local jobs. The facility's direct and fuel procurement jobs employ more than 120 people.

(c) Environmentally Beneficial Uses: Pinetree provides value to the economy by serving as another outlet for municipalities seeking to dispose of wood from the December 2008 ice storm and for the environmentally safe destruction of Asian longhorned beetle-infested wood from the Worcester area. The attached January 24, 2009 article from the *Worcester Telegram & Gazette* reports on this issue, including the use of Pinetree as an outlet for this wood.

(d) Beneficial Ash Use: Unlike fossil fueled generation, Pinetree's byproduct of electrical production, wood ash, is beneficially used by municipalities. Attached is a January 26, 2009 letter from the City of Worcester Department of Public Works and Parks noting that it uses wood ash from Pinetree to reduce odors at its composting facility.

(e) Reduced Air Emissions: A robust ACP will support REC market prices and sales revenues needed to invest in additional air emissions control technology. Assuming adequate REC revenue, if low emission guidelines set the NO<sub>x</sub> emission level at .075/lb/mmBtu, then Pinetree could reduce NO<sub>x</sub> from its permitted level by about 110 tons annually. See Pinetree Comments at 3.

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Department of Energy Resources  
February 9, 2009  
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GDF SUEZ appreciates DOER's consideration of these comments and its understanding of the importance of promoting the continued operation of existing wood-fired renewable energy generating facilities. If you should have any questions regarding this matter, please feel free to contact me.

Very truly yours,



Joe Dalton

Attachments

**Joe Dalton**  
**Director, Government & Regulatory Affairs**

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Jan 24, 2009

## New purpose for felled trees

### WOOD CHIPS FROM BEETLE ZONE CREATE ELECTRICITY

By George Barnes TELEGRAM & GAZETTE STAFF  
gbarnes@telegram.com

**WESTMINSTER** — Tree cutting in Worcester and surrounding communities because of Asian longhorned beetles may be an environmental tragedy, but the hardwoods that once graced people's yards and defined local avenues will find new value in lighting and heating homes in the Fitchburg area.

The loss of trees by the time the beetle eradication program is complete is expected to rewrite the landscape of Worcester and parts of Holden, Boylston, Shrewsbury and West Boylston, but the trees lost are not being wasted. The trees being cut will replace thousands of gallons of oil that might have been used to generate electricity.

Since Jan. 5, trucks loaded with wood chips have been traveling in a steady flow from Worcester to the Pinetree Power Fitchburg storage area on Route 31 in Westminster. There the chips are being held for use when the plant needs extra fuel to keep the boiler in its large generator burning.

The wood is not good for lumber because the risk of spreading the destructive beetles, and it is of limited use for firewood because the wood cannot be taken out of the quarantine area.

But the bulk of the now junk trees will go to a higher good: creating energy for the electric grid.

Chips from most of the beetle-infested trees being ground up in Worcester are being shipped either to Pinetree Power in Westminster, a plant owned by Suez Energy Generation, or two plants in Maine, Sappi Fine Paper North America in Westbrook and Boralex-Livermore Falls in Livermore Falls where they will be burned to create energy. The trees are being ground up in Worcester into matchbook-size pieces to ensure any beetle larvae in them are destroyed. Northern Tree service is then shipping the trees it harvests to the Pinetree power plant while Mayer Tree Service ships to Maine.

Northern Tree is one of many tree services and logging companies supplying the plant with the raw material it uses to create more than 17 megawatts of energy per hour. The company also is getting a bonus of wood chips this winter because of trees and branches brought down by the December ice storm in communities outside the quarantine area.

How much wood the Westminster plant will receive from the beetle-infested trees is uncertain. It depends on how many trees are cut down and how long the tree services will be cutting this year.

Wendy Fox, a spokeswoman for the state Department of Conservation and Recreation, said it is estimated that 9,000 trees, including infested and host trees, will be cut by April in the quarantine area. Host trees are those that the beetles favor in seeking something to infest, including those not yet infested. She said the cutting has to stop in April because that is when the beetles will become active and there is a risk they could escape from the trees they are living in during the cutting and cause more damage.

Once cut, the trees are being ground up as a precaution. Cutting trees for lumber in the quarantine area is prohibited and even removal of firewood from uninfested host trees is prohibited. Storing firewood from uninfested trees in the quarantine area is allowed. Taking chips out of the area is acceptable once they have gone through the grinding process required by state and federal biologists.

"Once they are chipped to one inch, they can't sustain any Asian longhorned beetle larvae," said Suzanne M. Bond of the U.S. Department of Agriculture.

The tree-cutting program escalated this year after the Dec. 11-12 ice storm that brought down limbs and trees throughout the region. Special precautions were taken to ensure wood from downed limbs did not leave the quarantine area. The first areas being cut in the tree removal program are along Greendale



Avenue, Fairhaven Road, property owned by Quinsigamond Community College and Kendrick Field. Compromised trees in that 2.2 square mile area are being cut and chipped.

At Pinetree Power, James C. Dammann, a procurement forester for Suez Energy, owner of the Westminster plant, said the beetle-infested tree wood chips will become part of the 20 to 25 tons of wood received there each day to be burned to produce energy. The beetle wood in the plant's storage area is being mixed with wood from other sources to be used as needed to power the plant's generator.

"It's actually a higher quality wood than much of the other wood," Mr. Dammann said.

The trees being cut to eliminate the beetles are all hardwoods: maples, ash, birch, horse chestnut and other trees favored by the destructive insects. The chips normally sent to the plant come from a variety of grades of wood.

Pinetree Power gets about 90 percent of its wood from sources in Massachusetts and about 5 percent from Vermont and New Hampshire. All of it is renewable energy. A report by the state Executive Office of Energy Affairs in 2007 found that there are about 3.9 million acres of timberland within a 61-mile radius of Worcester and new timber growth still exceeds that which is removed by 1.4 million tons per year.

Mr. Pannell said wood burned by the Pinetree Power plant replaces 32,380 gallons of number two fuel oil per day or 11.8 million gallons per year. The power from the plant, typically 17.3 megawatts per hour, is transmitted to Unitil's Flag Pond substation. It is then distributed by the utility to its customers, including residents and businesses in Fitchburg, Lunenburg, Ashby and Townsend. The plant provides enough energy each day to power about one-third of Fitchburg homes and businesses while using about 180,000 tons of wood per year. It also is fueled on a smaller scale by methane from the nearby Fitchburg landfill and by cubes of recycled paper from paper mills.

At present, Pinetree Power is not qualified to meet the state's renewable energy portfolio standard, but plant manager Tom Pannell said changes in the law under consideration would permit the company to make changes to meet that standard. It burns almost pollution-free, he said. Little but steam gets up its 180-foot-tall smokestack and before the wood gets to the boiler, using a large magnet, the plant pulls out for recycling any metal mixed in with the chips as they go down a conveyor. Even the ash from the burning process can be reused for some agricultural purposes, but because the plant was built before 1998, it falls under a different standard from more modern plants and would have to be upgraded to qualify for the state's renewable energy standards.

The beetle-tree wood is a welcome addition to what Pinetree Power takes in. Mr. Dammann said although wood supplies are plentiful in the winter, when spring hits the supplies will drop as mud will make it difficult for forestry companies to operate in the woods.

The supply of wood also depends on economic factors. He said if the price is too low, wood lot owners are likely to leave their trees standing, rather than sell it for too little money.

The stored wood helps fill the gaps.



DEPARTMENT OF PUBLIC WORKS AND PARKS

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January 26, 2009

Mr. Tom Christopher  
Senior Project Manager  
Resource Management, Inc.  
P.O. Box 1081  
Ashland, NH 03217

Dear Mr. Christopher:

The City of Worcester has been using clean wood ash from the Pinetree/Suez plant in Fitchburg Massachusetts for the past two years at the City's Ballard Street Composting Facility. Odor control is our number one concern at this facility due to its close proximity to City neighborhoods. We use this material on a regular basis to reduce the odors that are emitted during the composting process. We rely on it during the winter months in particular because odor control chemical sprays are not applicable during this time of the year. It also has improved the quality of our compost that we distribute to the residents of the City.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

Edmund T. Kochling  
Assistant Civil Engineer

ETK/pak